

intensity of each position light must meet the requirements of paragraph (b) of this section.

(b) *Forward and rear position lights.* The light distribution and intensities of forward and rear position lights must be expressed in terms of minimum intensities in the horizontal plane, minimum intensities in any vertical plane, and maximum intensities in overlapping beams, within dihedral angles, *L*, *R*, and *A*, and must meet the following requirements:

(1) *Intensities in the horizontal plane.* Each intensity in the horizontal plane (the plane containing the longitudinal axis of the rotorcraft and perpendicular to the plane of symmetry of the rotorcraft), must equal or exceed the values in § 29.1391.

(2) *Intensities in any vertical plane.* Each intensity in any vertical plane (the plane perpendicular to the horizontal plane) must equal or exceed the appropriate value in § 29.1393 where *I* is the minimum intensity prescribed in § 29.1391 for the corresponding angles in the horizontal plane.

(3) *Intensities in overlaps between adjacent signals.* No intensity in any overlap between adjacent signals may exceed the values in § 29.1395, except that higher intensities in overlaps may be used with the use of main beam intensities substantially greater than the minima specified in §§ 29.1391 and 29.1393 if the overlap intensities in relation to the main beam intensities do not adversely affect signal clarity.

§ 29.1391 Minimum intensities in the horizontal plane of forward and rear position lights.

Each position light intensity must equal or exceed the applicable values in the following table:

Dihedral angle (light included)	Angle from right or left of longitudinal axis, measured from dead ahead	Intensity (candles)
<i>L</i> and <i>R</i> (forward red and green).	0° to 10°	40
	10° to 20°	30
	20° to 110°	5
<i>A</i> (rear white)	110° to 180°	20

§ 29.1393 Minimum intensities in any vertical plane of forward and rear position lights.

Each position light intensity must equal or exceed the applicable values in the following table:

Angle above or below the horizontal plane	Intensity, <i>I</i>
0°	1.00
0° to 5°90
5° to 10°80
10° to 15°70
15° to 20°50
20° to 30°30
30° to 40°10
40° to 90°05

§ 29.1395 Maximum intensities in overlapping beams of forward and rear position lights.

No position light intensity may exceed the applicable values in the following table, except as provided in § 29.1389(b)(3).

Overlaps	Maximum intensity	
	Area A (candles)	Area B (candles)
Green in dihedral angle <i>L</i>	10	1
Red in dihedral angle <i>R</i>	10	1
Green in dihedral angle <i>A</i>	5	1
Red in dihedral angle <i>A</i>	5	1
Rear white in dihedral angle <i>L</i> ..	5	1
Rear white in dihedral angle <i>R</i> ..	5	1

Where—

(a) Area A includes all directions in the adjacent dihedral angle that pass through the light source and intersect the common boundary plane at more than 10 degrees but less than 20 degrees; and

(b) Area B includes all directions in the adjacent dihedral angle that pass through the light source and intersect the common boundary plane at more than 20 degrees.

§ 29.1397 Color specifications.

Each position light color must have the applicable International Commission on Illumination chromaticity coordinates as follows:

(a) *Aviation red*—

“*y*” is not greater than 0.335; and
“*z*” is not greater than 0.002.

(b) *Aviation green*—

“*x*” is not greater than 0.440—0.320*y*;
“*x*” is not greater than *y*—0.170; and
“*y*” is not less than 0.390—0.170*x*.